

# Accepted Manuscript

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PII: S0266-3538(16)31685-2

DOI: [10.1016/j.compscitech.2016.11.007](https://doi.org/10.1016/j.compscitech.2016.11.007)

Reference: CSTE 6570

To appear in: *Composites Science and Technology*

Received Date: 8 January 2016

Revised Date: 11 October 2016

Accepted Date: 9 November 2016

Please cite this article as: Gama N, Costa LC, Amaral V, Ferreira A, Barros-Timmons A, Insights into the physical properties of biobased polyurethane/expanded graphite composite foams, *Composites Science and Technology* (2016), doi: 10.1016/j.compscitech.2016.11.007.

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**Insights into the physical properties of biobased polyurethane/expanded graphite  
composite foams**

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**Abstract**

The main purpose of this work was to widen the range of applications of the polyurethane foams (PUFs) obtained from renewable resources as higher added value materials by increasing their electrical and thermal conductivities and get a better insight of the parameters governing these properties. The increase of these properties is frequently achieved by filling PUFs with carbon nanofibers (CNFs), carbon nanotubes (CNTs) or graphene layers, however their cost limits their widespread use. In this work, an inexpensive procedure has been developed to prepare electrical conductive PUFs using castor oil (CO) as polyol and expanded graphite (EG). The chemical and structural characteristics of the ensuing composite foams have been evaluated, as well as their morphology and their mechanical, thermal and electrical properties. The DC

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